Usecase Diagram

Identification of Actors
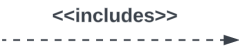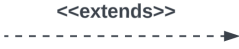
Actors

i. Students:
   Students availing of the hostel facility would require an outpass to leave the campus.

ii. Wardens (faculty):
    They are in charge of the outpasses and can accept or reject a student's outpass request.

iii. Authenticators:
     They are the authorities of the institution in charge of checking the outpass of a student and validating it

iv. Transport in charge:
    In charge of the hostel buses and transport needs of students.

Stakeholders

i. College / University Management :
   The management of the college using the Digital Outpass System would benefit from the system indirectly as they can accurately monitor the students on campus.

Notations

Diagram	Notation	Explanation
	Actor	Represents the various types of users of the system.
<<includes>> ------------>	Relationship	Represents "Includes" relationship between use cases
<<extends>> ------------>	Relationship	Represents "extends" relationship between use cases
————————>	Relationship	Represents generalisation between actors and between use cases

_____	Relationship	Represents association between use cases

Usecase diagram
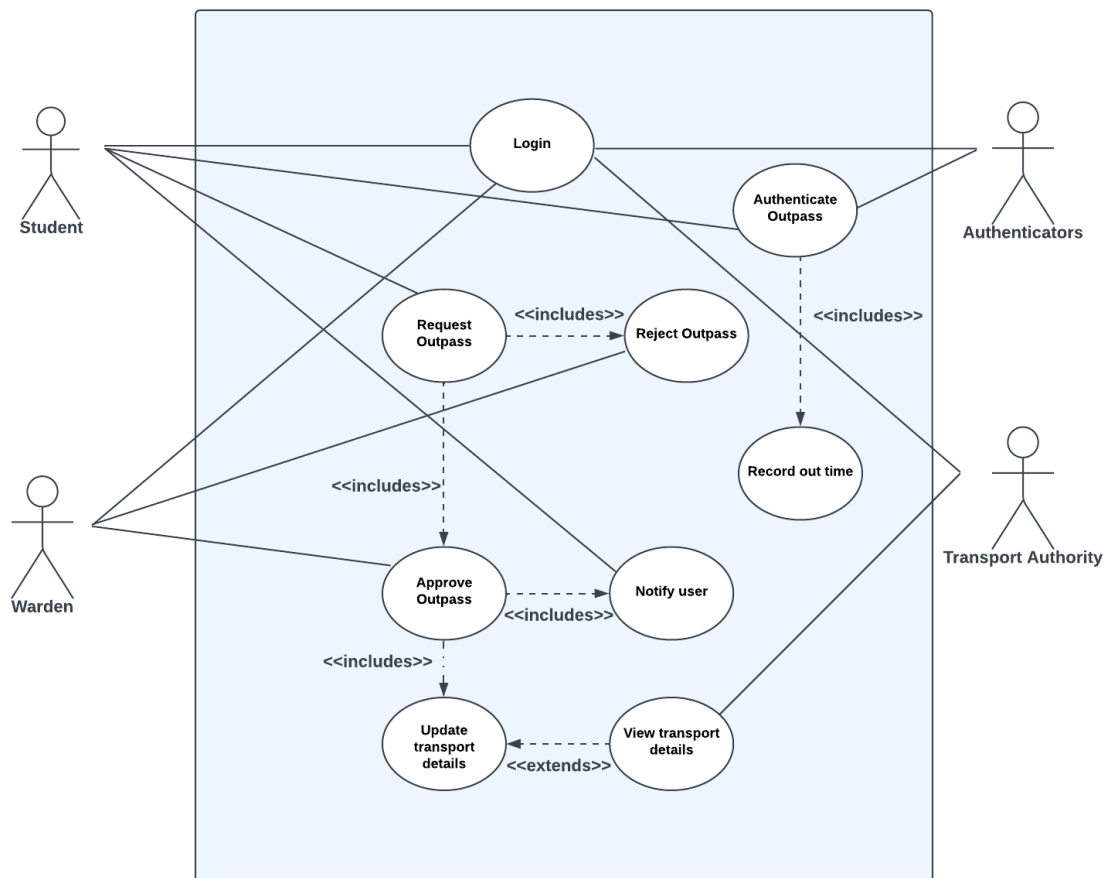
Usecase descriptions (scenarios)

i. **Request outpass**
    Purpose - Student users can place a request for an outpass when they require to leave the campus premises
    Pre-condition - The user must be logged in. User must have student permissions

Post condition - A new outpass request is added to the system
Actors - Student user
Main success scenario - The user is able to submit a request for an outpass along with necessary information.
Frequent Alternate scenario - The user is unable to submit an outpass request successfully due to the outpass number limit per month.

ii. **Approve outpass**
Purpose - Wardens can approve an outpass request
Pre-condition - The user must be logged in and must have the required permissions. The outpass request must be outstanding
Post condition - The outpass request is approved, the student user is notified, the outpass is added to the system
Actors - Student user, warden user
Main Success Scenario - The warden after looking at relevant documents and request approves the outpass request

iii. **Reject outpass**
Purpose - Wardens can reject an outpass request
Pre-condition - The user must be logged in and must have the required permissions. The outpass request must be outstanding
Post condition - The outpass request is rejected and the student user is notified
Actors - Student user, warden user
Main Success Scenario - The warden after looking at relevant documents rejects the outpass request

iv. **Login**
Purpose - Users can log in and use the system
Pre-condition - The user must be a part of the institution and must have valid credentials
Post condition - The user is logged into the system
Actors - All users
Main Success Scenario - the user logs in successfully
Frequent alternate scenario - The user is unable to login due to invalid credentials

v. **Authenticate outpass**
Purpose - To authenticate a valid outpass and log the out time
Pre-condition - A valid outpass must be produced
Post condition - The outpass is validated, out time of the student is logged
Failure - Invalid outpass

Actors - Student user, authenticator
Main Success Scenario - Outpass is found to be authentic
Frequent alternate scenario - Outpass is invalid and the student will not be allowed outside the gate.
Sub-Functionality - Out time is recorded and stored in the database

   vi. **Notify User**
        Purpose - To notify users about acceptance/rejection of the outpass request
        Pre-condition - User must be logged in
        Post condition - The user is notified
        Actors - Student user, system
        Main success scenario - A mail or text message is sent to the user to indicate the approval/rejection of the outpass

   vii. **Update Transport Details**
        Purpose - To update the number of students availing the bus service
        Pre-condition - Outpass must have been approved
        Post condition - The count of students availing the bus service is incremented
        Actors - System (secondary actor)
        Main success scenario - The transport details of the student leaving are updated in the database

   viii. **View Transport Details**
         Purpose - To view the number of students availing the bus service
         Pre-condition - Must be logged in as transport in-charge
         Actors - Transport in-charge
         Main success scenario - The transport details of students leaving campus are displayed and is available for download by the transport in-charge.

Compilation of main success scenarios

   1. Student user logins into the system
   2. They place an outpass request successfully
   3. The warden user logs in and reviews the request
   4. They approve/reject the request
   5. Student user is notified of the status of the request

6. If the request is approved, they view the outpass and present it to the authenticators for authentication when leaving the campus
7. The authenticator user logs in and scans the outpass to check its validity.
8. They authenticate the outpass thus logging the out-time.